

**TABLE 23-II-I-1 ALLOWABLE SHEAR FOR WIND OR SEISMIC FORCES  
IN POUNDS PER FOOT FOR WOOD STRUCTURAL PANEL SHEAR WALLS  
WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE<sup>1,2,3</sup>**

PANEL GRADE	MINIMUM NOMINAL PANEL THICKNESS (inches)	MINIMUM NAIL PENETRATION IN FRAMING (inches)	ALLOWABLE SHEAR SEISMIC FORCES <sup>3,6</sup> PANELS APPLIED DIRECTLY TO FRAMING				ALLOWABLE SHEAR WIND FORCES PANELS APPLIED DIRECT TO FRAMING					
			Nail Size (Common or Galvanized Box) <sup>5</sup>	Nail Spacing at Panel Edges (in.)				Nail Size (Common or Galvanized Box) <sup>7</sup>	Nail Spacing at Panel Edges (in.)			
				x 25.4 for mm					x 25.4 for mm			
				6	4	3	2 <sup>7</sup>		6	4	3	2
x 25.4 for mm			x 0.0146 for N/mm				x 0.0146 for N/mm					
Structural I	5/16	1 1/4	6d	200	200	200	200	6d	200	300	390	510
	3/8	1 1/2	8d	200	200	200	200	8d	230 <sup>4</sup>	360 <sup>4</sup>	460 <sup>4</sup>	610 <sup>4</sup>
	7/16			255 <sup>4</sup>	395 <sup>4</sup>	505 <sup>4</sup>	670 <sup>4</sup>		255 <sup>4</sup>	395 <sup>4</sup>	505 <sup>4</sup>	670 <sup>4</sup>
	15/32			280	430	550	730		280	430	550	730
	15/32	1 5/8	10d	340	510	665	870	10d	340	510	665	870
C-D, C-C Sheathing, plywood panel siding and other grades covered in UBC Standard 23-2 or 23-3	5/16	1 1/4	6d	180	200	200	200	6d	180	270	350	450
	3/8	1 1/2	8d	200	200	200	200	8d	220 <sup>4</sup>	320 <sup>4</sup>	410 <sup>4</sup>	530 <sup>4</sup>
	3/8			240 <sup>4</sup>	350 <sup>4</sup>	450 <sup>4</sup>	585 <sup>4</sup>		240 <sup>4</sup>	350 <sup>4</sup>	450 <sup>4</sup>	585 <sup>4</sup>
	7/16			260	380	490	640		260	380	490	640
	15/32	1 5/8	10d	310	460	600	770	10d	310	460	600	770
	19/32			340	510	665	870		340	510	665	870
				Nail Size (Galvanized Casing)					Nail Size (Galvanized Casing)			
Plywood panel siding in grades covered in UBC Standard 23-2	5/16	1 1/4	6d	140	200	200	200	6d	140	210	275	360
	3/8	1 1/2	8d	160	200	200	200	8d	160	240	310	410

<sup>1</sup> All panel edges backed with 2-inch (51 mm) nominal or thicker framing. Panels installed either horizontally or vertically. Space nails at 6 inches (152 mm) on center along intermediate framing members for 3/8-inch (9.5 mm) and 7/16-inch (11 mm) panels installed on studs spaced 24 inches (610 mm) on center and 12 inches (305 mm) on center for other conditions and panel thicknesses. These values are for short-time loads due to wind or earthquake and must be reduced 25 percent for normal loading.

Allowable shear values for nails in framing members of other species set forth in Division III, Part III, shall be calculated for all other grades by multiplying the shear capacities for nails in Structural I by the following factors: 0.82 for species with specific gravity greater than or equal to 0.42 but less than 0.49 and 0.65 for species with a specific gravity less than 0.42.

<sup>2</sup> Where panels are applied on both faces of a wall and nail spacing is less than 6 inches (152 mm) on center on either side, panel joints shall be offset to fall on different framing members or framing shall be 3-inch (76) nominal or thicker and nails on each side shall be staggered.

<sup>3</sup> In Seismic Zones 3 and 4, where allowable shear values exceed 350 pounds per foot (5.11 N/mm), foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch (76 mm) nominal member and foundation sill plates shall not be less than a single 3-inch (76 mm) nominal member. In shear walls where total wall design shear does not exceed 600 pounds per foot (8.76 N/mm), a single 2-inch (51 mm) nominal sill plate may be used, provided anchor bolts are designed for a load capacity of 50 percent or less of the allowable capacity and bolts have a minimum of 2-inch-by-2-inch-by-3/16-inch (51 mm by 51 mm by 5 mm) thick plate washers. Plywood joint and sill plate nailing shall be staggered in all cases.

<sup>4</sup> The values for 3/8-inch (9.5 mm) and 7/16-inch (11 mm) panels applied direct to framing may be increased to values shown for 15/32-inch (12 mm) panels, provided studs are spaced a maximum of 16 inches (406 mm) on center or panels are applied with long dimension across studs.

<sup>5</sup> Galvanized nails shall be hot-dipped or tumbled.

<sup>6</sup> The maximum allowable shear for three-ply plywood resisting seismic forces is 200 pounds per foot (2.92 kN/m).

<sup>7</sup> Framing at adjoining panel edges shall be 3-inch (76 mm) nominal or thicker and nails shall be staggered where nails are spaced 2 inches (51 mm) on center.